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Promotion, Tenure and Retention Criteria

Ira A. Fulton Schools of Engineering

Approved by the Faculty March 30, 2011

1. Statement of Philosophy

The Ira A. Fulton Schools of Engineering (Engineering) has transcended the traditional model of engineering schools. Moving beyond a disciplinary-driven organization and culture, emphasizing impact to society throughout our academic and research programs, fostering intellectual fusion between engineering and other non-engineering disciplines, and our commitment to student success are evidence of this. These are attributes that we feel will ultimately define the great engineering schools of the 21st century.

Engineering is a key component of Arizona State University (ASU), which prides itself in having established the concept and prototype of the New American University. Key attributes of the university are its emphasis on access, excellence, and impact and its eight design aspirations (leverage place, transform society, value entrepreneurship, conduct use-inspired research, enable student success, fuse intellectual disciplines, be socially embedded, and engage globally). Engineering embraces those and seeks to be the exemplar for large colleges and schools at Arizona State University.

Engineering's reputation will be built in part on the attributes and aspirations discussed above, but will also depend in part on output metrics that are visible and of importance to the external community and our customers; for example, these include:

- The number, quality, preparedness, and success of our students,
- The external reputation and recognition of the achievements of our faculty,
- The impact that our innovations, inventions, and discoveries ultimately have on transforming society,
- The magnitude and reputation of our externally-funded research enterprise, and
- The generation of intellectual property, inventions, and new companies.

The promotion and tenure criteria discussed in this document are aligned with the attributes, aspirations, and output metrics discussed above to ensure that Engineering builds and rewards a faculty that is committed to and capable of achieving its goals and those of Arizona State University. Engineering aspires to have a faculty that overall is known for its creativity, collaborative nature, excellence in student instruction and mentoring, scholarly productivity, entrepreneurial activities, and impact to society and the world.

In the following, high-level expectation statements are given for each of the major steps in tenured/tenure-track faculty career progression. These are followed by more detailed examples of

faculty accomplishments that are considered when assessing and making recommendations on promotion and tenure cases.

From within Engineering, four evaluations are performed for each promotion and/or tenure application, and each evaluation yields a recommendation as to whether or not the applicant should be promoted and/or tenured. The evaluators, in order of sequence of their evaluations, include:

- a school-level committee consisting of faculty from the school in which the applicant is appointed,
- the Director of the school in which the applicant is appointed,
- an Engineering-wide committee (Dean's Personnel Advisory Committee) consisting of faculty from the different schools in Engineering, and
- the Engineering Dean.

It is important to recognize that promotion and tenure decisions are made by the University President, with consideration of the evaluations discussed above. The University President also considers an evaluation prepared by a university-wide faculty committee.

2. Expectations for Tenure-track/Tenured Faculty Career Progression

2.1 Expectations for Advancement from Assistant Professor/Associate Professor Without Tenure to Associate Professor with Tenure

In brief, those receiving favorable recommendations will have a record of accomplishments such that evaluators conclude that the applicant is capable of, and will continue to contribute to the goals of Engineering and ASU at a level expected of associate professors. More specifically, the following are expected:

- dedicated and quality student instruction at both the undergraduate and graduate level, and at instructional loads expected of junior faculty,
- successful graduate student mentoring, with an emphasis on completion of doctoral students,
- substantial output from research and entrepreneurial activities, at the level expected of assistant professors,
- innovative and impactful research and/or entrepreneurial activities,

- the ability to attract external resources needed to support a research and/or entrepreneurial program of the scale desired by the Ira A. Fulton Schools of Engineering,
- positive interactions and collaborations with other faculty,
- professional service contributions typical of assistant professors that enhance the faculty member's visibility and the visibility of the school, Engineering, and ASU, and
- a record of accomplishments that provides evaluators with confidence that the applicant for promotion and/or tenure will sustain quality student instruction, continue to evolve and secure resources for a research and/or entrepreneurial program that produces impactful results, continue to provide valuable professional service, and continue to grow in professional stature and recognition

Indicators of each bulleted item are discussed below in Section 3.

2.2 Expectations for Advancement from Associate Professor or Professor Without Tenure to Professor with Tenure

In brief, those receiving favorable recommendations will have achieved recognition of leadership status in their field, in Engineering, and at ASU. In addition, the successful applicant's record of accomplishments will be such that evaluators conclude that the applicant is capable of, and will continue to contribute to the goals of Engineering and ASU at a level expected of professors. More specifically, the following are expected:

- a substantial record showing dedicated and quality student instruction at both the undergraduate and graduate level, and at instructional loads expected of professors,
- substantial success with graduate student mentoring, with an emphasis on completion of doctoral students,
- substantial output from research and/or entrepreneurial activities, at the level expected of professors,
- national and international recognition of innovative and impactful research and/or entrepreneurial activities,
- sustained success at attracting external resources needed to support a research and/or entrepreneurial program of the scale expected of professors in the Ira A. Fulton Schools of Engineering,
- a history of positive interactions and collaborations with other faculty,

- substantial service, including leadership roles, to the school, Engineering, and/or ASU, and
- substantial and leadership-oriented professional service contributions typical of professors that enhance the faculty member's visibility and the visibility of the school, Engineering, and ASU.

Indicators of each bulleted item are discussed below in Section 3.

3. Indicators of Accomplishments Used to Assess if an Applicant Meets Expectations for Promotion and/or Tenure

In the following, examples are given of typical indicators considered when assessing if an applicant meets the bulleted promotion and tenure criterion listed above in Section 2. These examples are not meant to be exclusive or limiting; other relevant indicators may be proposed by the applicant and, if so, these will be considered by the evaluators.

• Dedicated and quality student instruction:

The evaluation of dedicated and quality student instruction must consider the performance in the classroom or laboratory as well as the content of specific courses, the standards imposed, and, where possible, the degree of actual student learning. The desirability and difficulty of introducing innovative material into traditional academic programs, and out-of-the-classroom contributions to academic program evolution should also be considered. Specific information that reviewers consider in forming their assessment include:

- student feedback (quantitative and qualitative) – it is expected that successful applicants will perform at or above average evaluations for all Engineering faculty teaching similar courses. It is also expected that qualitative student feedback will indicate dedication to instruction, effective communication, and respect for the students.
- teaching portfolio – containing examples of course materials.
- teaching statement – explaining the applicant's philosophy for instruction, their self-assessment, and their contributions to the academic program(s).
- teaching awards.
- out-of-classroom contributions to academic program enhancement (i.e., participation on committees focused on curriculum reform; participation at E2 Camp, mentoring FURI students)
- relevant publications (i.e., textbooks or scholarly articles related to instructional efforts)
- participation in courses and development activities to improve as an instructor

• Success with graduate student mentoring:

The evaluation of graduate student mentoring focuses primarily on the following as indicators of success:

- graduation of graduate students for whom the applicant is the thesis or dissertation committee chair. While both masters and doctoral graduates are considered, the emphasis in Engineering is on the graduation of doctoral students. Most successful applicants for promotion to associate professor with tenure have mentored at least one doctoral student to graduation and most successful applicants for promotion to professor with tenure have mentored at least five doctoral students to graduation;

- outputs from research and entrepreneurial activities (i.e., journal papers, conference papers, conference presentations, patent applications, patents) that are co-authored with graduate students.

- the pipeline of graduate students (the number being mentored at time of application) is considered to be an indicator of the sustainability of successful graduate student mentoring. Engineering's expectation is that, on average across Engineering, its faculty should be mentoring four to five doctoral students.

In addition to these indicators, evaluators may also consider the post-graduation placement and career success of graduated students as indicators of successful graduate student mentoring.

• Output from research and/or entrepreneurial activities, and

• Recognition of innovative and impactful research and/or entrepreneurial activities

Engineering recognizes all innovative and impactful research, no matter where it falls in the fundamental/basic - translational - applied research spectrum. It also recognizes research that crosses and extends beyond traditional disciplinary boundaries. This is necessary to achieve its goals related to intellectual fusion, societal impact, and the magnitude and external recognition of its research enterprise. Additionally, intellectual property development with associated technology or knowledge transfer, especially to commercial entities that are able to develop and deploy commercially viable technology or products, reflects innovation, impact, and contributions to entrepreneurship.

Indicators of research output, innovation, impact, and entrepreneurial activity include:

1. peer-reviewed archival publications, including journal articles, book chapters, and monographs[1],

2. peer-reviewed conference presentations/publications,

3. input from confidential external reviewer letters, written by experts in the applicant's field, that attest to the significance and impact of the output from the research and entrepreneurial activities,

4. the use of the output from the applicant's research and entrepreneurial activities by others for their research and entrepreneurial activities,

5. successful proposals for external support of research activity,

6. development of special facilities to support research activity,

7. national and international awards for research activity,

8. invitations to give talks at national or international meetings,

9. invention disclosures, patent applications, and patents,

10. creation of new commercial entities or organizations that will incubate, develop, and deploy technologies resulting from research or transfer results from research into existing commercial entities, and

11. meaningful contributions to science and technology policy debate, development, and deployment[1].

• Ability to attract external resources needed to sustain a research and/or entrepreneurial program of the scale desired by the Ira A. Fulton Schools of Engineering

External funding is viewed by Engineering to be a critical enabler of graduate student mentoring and innovative and impactful research and entrepreneurial output. As such, all sources of external funding are considered. While there are not specific quantitative expectations for funding levels, the funding needs to be sufficient to support graduate students and to build and

[1] Candidates should provide supporting evidence (for example, referees' reports and acceptance rates) that will yield insight into the quality and significance of any work reported for Research Measures 1 and 2.

[1] Examples might include testifying as an expert in front of state or national legislatures, writing white papers supporting the development and implementation of appropriate policies; and participating in NAE, NAS, or NRC committees and panels.

sustain research programs of the magnitude and impact desired by Engineering (as discussed above). Engineering's goal is to have a research enterprise of the collective scale of the top engineering schools in the United States, and it recognizes that funding norms vary by discipline and type of work (i.e., laboratory vs. modeling work). In assessing an applicant's record of external funding, these factors are considered as well as how the applicant contributes collectively to Engineering's overall goal for the scale and impact of its research enterprise.

Indicators of the ability to attract and sustain external resources, include:

1. external funding proposals – both successful and unsuccessful applications, and
2. resources to support research activities generated by non-traditional funding sources, such as royalty revenues and gifts.

Internal funding is considered, but is weighted very low in this assessment.

• Positive interactions and collaborations with other faculty

Engineering relies primarily on the school-level reviewers (faculty committee and school director) to provide input for this assessment.

• Professional service contributions

By the very nature of their positions, involvement by all faculty members in professional service activities is expected and required. These include, for example, internal committee memberships and special assignments necessary to support some aspect of teaching, student success, or research in Engineering, as well as external service to the profession including service to journals, professional organizations, and conferences. The significance and impact of service activities is assessed by evaluators, and the expectations are very different for applicants for promotion and/or tenure to associate professor vs. to professor.

In the case of applicants for promotion and/or tenure to the professor level, reviewers are looking for substantial service, including leadership roles, to the school, Engineering, and/or ASU; for example:

1. editor or associate editor of a scholarly archival journal,
2. chair of a University or Engineering School Committee,
3. organizer of a national or international professional meeting,
4. officer, or other substantive leadership position, in a national or international professional organization,

5. service designed to enhance public knowledge and familiarity with technology[3],
6. service in national advisory boards and committees,
7. service to the university through shared resource acquisition and development or development of research or teaching infrastructure,
8. organization, submission, and acquisition of training grants to support education activities, and
9. input from confidential external reviewer letters, written by experts in the applicant's field, that attest to the significance and impact of the professional service activities.

In the case of applicants for promotion and/or tenure to the associate professor level, reviewers are looking for service activities that enhance the faculty member's visibility and the visibility of the school, Engineering, and ASU; for example:

1. manuscript reviews for a scholarly archival journal,
2. member of a University or Engineering School Committee,
3. organizer of a session at a national or international professional meeting,
4. member of a subcommittee in a national or international professional organization,
5. service designed to enhance public knowledge and familiarity with technology,
6. service in national advisory boards and committees,
7. service to the university through shared resource acquisition and development or development of research or teaching infrastructure,
8. organization, submission, and acquisition of training grants to support education activities, and
9. input from confidential external reviewer letters, written by experts in the applicant's field, that attest to the significance and impact of the professional service activities.

[3] Examples might include radio and television interviews; providing expert input to media offerings; and serving as an expert resource for written, broadcast, or Internet media. Such activities may also include local, national, or international community outreach.

4.0 General Remarks on the Implementation of the Criteria

- The evaluation process will normally weight research/entrepreneurial and teaching activities heavily for promotion and/or tenure to associate professor and professor. Given the importance of student success, applicants with poor to mediocre teaching and mentoring records should not be recommended for promotion and/or tenure. Likewise, it is necessary for successful applicants to have accomplishments and sustained activity in the research/entrepreneurial dimension to be recommended for promotion and/or tenure.

- Professional service is also a requirement and a necessity for building one's reputation; however, service activities are weighted lightly in applications for promotion and tenure to the associate professor level. They are of more importance in applications for promotion and tenure to the professor level as service activities frequently reflect one's standing in his or her field.

- Research and teaching are natural partners under the evaluation philosophy outlined here. Service is also an activity of importance and is critical in projecting the faculty member's activities and capabilities at the department, college, university, professional societies, national and international arenas. The most desirable faculty members are those who continually demonstrate a synergistic relation between all three of these activities at both the undergraduate and graduate levels.

- It is recognized that research may involve multiple collaborators from a range of disciplines, and that some faculty member's research programs may be highly collaborative. This is encouraged in Engineering and reviewers should consider this to be a positive attribute in evaluating applications for promotion and/or tenure. Having said that, Engineering expects its faculty members to be capable of contributing to multi-investigator efforts in both lead and supportive roles, and for their contributions to be significant and lead to research pursuits that would not be possible without their involvement.

- In evaluating the various activities of applicants, *quantity* alone cannot be the deciding factor. The *quality*, *significance*, and *impact* of each contribution must be considered, ideally within the framework of appropriate national expectations. Evaluators must be confident and conscientious enough so that routine activity is not mistaken for serious accomplishment.

- Since academic appointments often imply long-term commitments by Engineering and the University, evaluators must be satisfied that sufficient evidence of a continuing and maturing satisfaction of the various criteria is present in all cases.

- It is expected that these criteria will also guide the determination of the appropriate academic status for individuals joining the Engineering faculty above the rank of assistant professor.

- In section 2.0, the phrases “expected of an assistant professor”, “expected of an associate professor”, and “expected of a professor” appear, but those expectations are not always explicitly defined in this document. That is intentional as any expectations are relative to the norms of different fields within Engineering and Engineering’s expectations for each of its schools and programs, and those will vary across Engineering. Engineering expects its evaluators to provide context for their determination as to whether or not expectations are met or not met; for example, by citing the school or program expectations.

- With regard to external review letters, it is recommended that six external review letters should be obtained from universities and organizations that ASU aspires to emulate and compete with. Of these six referees, the candidate should select two referees, the area committee members in the disciplinary area of the candidate should select two referees, and the director of school to which the candidate belongs should select two referees. The composite list should be approved by the Dean.

5.0 Probationary Reviews

Probationary reviews are conducted by the Engineering Evaluators discussed in Section 1.0 for tenure-track faculty in either the third year of appointment (for assistant professors) or the second year of appointment (for tenure-track associate professors).

In either case, the purpose of the probationary review is to assess progress toward fulfilling the promotion and tenure expectations presented in this document, to recommend whether or not to issue a continuing or terminal contract in the subsequent year, and for those receiving continuing contracts to provide feedback on progress toward fulfilling promotion and tenure requirements.

Probationary reviews tend to look for evidence of foundational activities necessary to establish a successful academic career (classroom instruction quality, supporting and mentoring graduate students, collaborating with others, proposal writing, etc.). Probationary reviews also look for early indicators of success, such as very good student reviews, peer-reviewed journal manuscript submission, conference presentations and successful proposal funding.

For assistant professors, the focus of the review is typically on instructional quality, student mentoring, and progress toward an original research/entrepreneurial program; service activities are a secondary consideration.

For associate professors, the review considers instructional quality, student mentoring, progress toward an original research/entrepreneurial program, and service activities. In this case, focused research/entrepreneurial and teaching efforts should be apparent.

Feedback on progress will also be provided by the Director during the annual performance review.